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VIA FACSIMILE AND FEDERAL EXPRESS

Mr. Thomas R. Pinkos
Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive
Suite 200
Rancho Cordova, California 95670

Re: **Comments on Salt/Boron TMDL Basin Plan Amendment**

Dear Mr. Pinkos:

The City of Turlock ("City") appreciates the opportunity to provide the Regional Water Quality Control Board, Central Valley Region, ("Regional Board) with comment on the November 2003 Public Review Draft of the "Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Salt and Boron Discharges in the San Joaquin River" initiated to incorporate the technical Total Maximum Daily Load for Salt and Boron Discharges in the San Joaquin River ("Salt/Boron TMDL"). The City's comments are presented below.

The City is located in the East Valley Floor Sub-area, and accounts for less than one to two percent of the total salt load of the lower San Joaquin River. *See* Staff Report at 81 (East Valley Floor Sub-area, characterized as a "low" priority for compliance with a control program for salt and boron in the lower San Joaquin River) and *compare* Staff Report at 49 ("the Cities of Turlock and Modesto only account for approximately 2 percent of the total salt load of the San Joaquin River") and Appendix 1 at 1-48 at Table 3-6 (municipal *and* industrial discharges in entire East Valley Floor Sub-area constitute one (1) percent of the salt load). Within the East Valley Floor Sub-area, municipal and industrial discharges comprise only one (1) percent of the total discharge flow, and have a lower concentration of salinity than other discharges in the region. *See* Appendix 1 at 1-48 at Table 3-6. The predominant source of salt and boron in the lower San Joaquin River originates from the west side of the San Joaquin River (Grasslands and Northwest Side Sub-areas). *See* Appendix 1 at 1-2.

Regional Board staff admit that salt and boron loads from point sources, such as the City, represent a "small fraction" of the total loads in the TMDL project area. *See* Appendix 1 at 1-64. Nonetheless, the unfortunate effect of the Salt/Boron TMDL as currently proposed is to place a

staggering and disproportionate economic and environmental burden upon the City to construct advanced treatment facilities (*i.e.*, micro-filtration and reverse osmosis) in order to comply with prescribed proposed current and future waste load allocations, where the Salt/Boron TMDL suggests that such compliance would have no real effect on the "impaired" status of the Lower San Joaquin River at the Airport Way Bridge near Vernalis. Imposing such a disproportionate burden upon the City is illogical and a senseless waste of scarce public funds. The Regional Board has failed to demonstrate or address the necessity of the prescribed waste load allocations and the expected water quality benefit to be derived from imposition thereof, and has failed to consider the detrimental economic and environmental impacts of the City's compliance with the prescribed requirements in violation of the Clean Water Act (requiring economic factors to be considered in identifying municipal treatment controls needed to achieve water quality goals) and the Water Code. *See, e.g.,* 33 U.S.C. §§1288, 1315(b) and Water Code §§13000 and 13241; *see also* Statement of Decision, *Cities of Arcadia, et al. v. State Water Resources Control Board, et al.,* San Diego County Superior Court, Case No. GIC 803631 (December 24, 2003) (finding that a Regional Board must conduct a cost/benefit analysis and consider economic and environmental factors before adopting a TMDL into a Basin Plan).

1. The Method for Calculating and Assigning Waste Load Allocations To the City is Vague and Ambiguous, Leaving Uncertainty as to the Requirements That Will Be Imposed On the City Based on the Salt/Boron TMDL.

A TMDL document must describe the relationship between the numeric target and identified pollutant source (in this case, the City's municipal discharge). *See, e.g.,* Guidance for Water Quality-Based Decisions: the TMDL Process, U.S. EPA (1991). In this case, however, it is unclear what the Regional Board intends the numeric target, or "wasteload allocation" ("WLA") to be. Appendix 1 (the technical TMDL report) states that "*[i]n this first phase . . .*, the *WLAs are concentration based and set equal to the salinity water quality objectives at Vernalis.* Salt and boron loads from point sources therefore should not contribute to exceedances of water quality objectives." *See* Appendix 1 at 1-64 (Emphasis added); *see also* Appendix 1 at 1-2. Based on this statement, the City would expect WLAs of 700 and 1000 uS/cm (30-day running average for electrical conductivity ("EC")) during the irrigation (April – August) and non-irrigation (Sept. – March) seasons, respectively. The duration of such WLAs is unclear, however, since the Regional Board fails to define the "first phase" of the TMDL, although it is suggested that the first phase relates to the period of time before any new or revised water quality objectives are adopted for the Lower San Joaquin River upstream of Vernalis. *See* Staff Report at 34 and further discussion of the Regional Board's adoption of "new or revised" water quality objectives below.

Subsequently, in Appendix C, without explanation, the WLAs for the City are defined as "set *equal to the historic monthly loading from each municipality.*" *See* Appendix C at C-2. (Emphasis added). This approach to WLAs differs substantially from the approach taken in Appendix 1, as the WLA is not simply a concentration–based limit set equal to the water quality objectives at Vernalis as stated in Appendix 1, but rather, is an unspecified concentration

calculated based upon the City's "historic mean monthly flow, mean monthly concentration data, and a conversion factor." *Id.* If the approach in Appendix C is the method by which the City's "first phase" or "final" WLA is calculated, the City will be required to maintain a wholly different concentration of EC than the water quality objectives at Vernalis. As described in Table C1 at Appendix C-3, after proceeding through the described Steps 1-4, the mean monthly concentration of EC[1] that must be obtained (shown incorrectly in Table C1 as the "Mean FWA"), varies between a 844 uS/cm (January) and 941 uS/cm (May).

The City is also concerned that when the City's NPDES permit is re-opened or renewed to include some form of WLAs, the Regional Board will ignore the statements in the TMDL that the WLAs are meant only to be "concentration-based" and will impose a companion mass-based limit (a function of concentration multiplied by flow), as has become customary in newly issued NPDES permits. For this reason, the City requests that the Regional Board clarify in the Salt/Boron TMDL that a duplicative mass-based limit is unnecessary to impose.[2] *See, e.g.,* 40 C.F.R. §122.45(f)(2).

The primary concern regarding the inclusion of any companion mass-based limit based on "historic" flows[3] is that such a mass-based limit would result in a requirement for the continual reduction of concentration in order to comply as the City increases flow – flow within the City's permitted flow limits - due to industrial, commercial, or residential growth in its service area. No such continual reduction, as a result of a historic flow, mass-based limit calculation, is contemplated by the Salt/Boron TMDL. If such continual reduction is the Regional Board's intent, the Regional Board must specifically state this intent, and in doing so, comply with the mandates of 33 U.S.C. sections 1288, 1315(b) and Water Code sections 13000 and 13241.

Further complicating the issue of pinpointing what will be expected of the City in order to comply with the Salt/Boron TMDL is the fact that the Regional Board is "currently in the process of preparing a Basin Plan Amendment intended to address salinity and boron impairment [accredited to agricultural discharges] in the Lower San Joaquin River upstream of the Airport Way Bridge near Vernalis." *See* Appendix 1 at 1-18. This is the reach of the Lower San Joaquin River into which the City discharges.[4] Regional Board staff anticipate that the "Basin Plan

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[1] For purposes of comparison to the water quality objectives for EC at Airport Way Bridge near Vernalis set forth in the Salt/Boron TMDL, the City is using EC here rather than TDS. The TDS values set forth in Table C1 were converted to EC using a .65 conversion factor.

[2] Of course, if the Regional Board imposes WLAs based on Appendix C, the Regional Board has already taken into account mean loads. *See* Appendix C, Steps 1-4.

[3] The City would expect the Regional Board to, at the very least, calculate any mass-based limit using the City's permitted design flow of twenty million gallons per day ("mgd") rather than historic or current (approximately 11.4 mgd) flows.

[4] The City questions the listing of the Lower San Joaquin River upstream of Vernalis as impaired for salt (electrical conductivity) and boron where no water quality standard currently exists in order to determine impairment. *See* 33

Amendment, once adopted, will contain revised water quality objectives for salinity and boron." Absent new or revised salt and boron water quality objectives for the Lower San Joaquin River upstream of Vernalis, "the existing monthly mean salt and boron water quality objectives at the San Joaquin River at the Airport Way Bridge near Vernalis are used as the salinity numeric target in the Salt/Boron TMDL." *See* Appendix 1 at 1-24. However, "additional numeric targets will be applied to reaches upstream of Vernalis when the Regional Board adopts new water quality objectives." *Id.*

It is unclear from Regional Board staff statements whether the Regional Board plans to amend the existing Salt/Boron TMDL when the "new or revised salt and boron water quality objectives for the Lower San Joaquin River upstream of Vernalis" are adopted, or whether separate TMDLs may be prepared and adopted for these reaches of the San Joaquin River. *See* Staff Report at 34 ("the methods used in the salt and boron TMDL to develop allocations will be applied to calculate load allocations based upon new or revised water quality objectives;" however, the Regional Board does not specify the how this recalculation will occur). Further, the Regional Board does not clearly indicate whether compliance with the existing Salt/Boron TMDL for the Lower San Joaquin River at Airport Way Bridge near Vernalis will constitute compliance with any "new or revised water quality objectives" upstream of Vernalis prior to any re-calculation that may occur. If not, the Regional Board may be placing the City in the position of having to plan for and take exceptionally difficult and costly actions to comply with the current Salt/Boron TMDL, while also facing uncertainty as to measures potentially needed to address additional water quality objectives and/or TMDLs subsequently adopted for the reach of the Lower San Joaquin River to which the City actually discharges.

If compliance with the existing Salt/Boron TMDL requires actions different than those required by any future Basin Plan amendments and/or TMDLs, the Regional Board's existing Salt/Boron TMDL placed an unreasonably severe burden on the City, especially given the fact that the City's discharge (existing or as modified pursuant to the Salt/Boron TMDL) does not and will not likely affect the impaired status of the Lower San Joaquin River at Airport Way Bridge near Vernalis. For this reason, the City requests that it be removed from regulation under the current Salt/Boron TMDL as a *de minimus* discharge. Instead, the City's discharge would be considered and included in the subsequent amended or stand-alone Salt/Boron TMDL adopted to address any impairments in the Lower San Joaquin River upstream of Vernalis. This action will reduce any potential conflict between current and future TMDL requirements, and will eliminate the necessity of expending public funds to comply with potentially competing regulatory documents.

U.S.C. §1313(d)(1)(A).

2. The Regional Board Has Failed to Demonstrate the Necessity of Requiring the City to Strictly Comply with the Water Quality Objectives At Airport Way Bridge near Vernalis In Order for the Lower San Joaquin River to Attain Water Quality Standards.

No constituent-specific water quality objectives exist for salt and boron in the Lower San Joaquin River upstream of Vernalis, where the City discharges. However, for purposes of the Salt/Boron TMDL, waste load allocations are proposed for the Cities of Turlock and Modesto wastewater treatment plants that are "concentration limits set equal to the electrical conductivity water quality objectives for the Lower San Joaquin River at the Airport Way Bridge near Vernalis."[5] *See* Staff Report at 34; *see also* Appendix 1 at 1-64.

The Regional Board is applying the Vernalis water quality objectives to the City's discharge without demonstrating the necessity of requiring the City to strictly comply with these water quality objectives in order for the Lower San Joaquin River to attain and/or maintain water quality standards. No assimilative capacity and/or fate and transport studies (demonstrating the actual impact of the City's discharge on the Lower San Joaquin River at Airport Way Bridge near Vernalis) have been performed or referred to that would justify the application of the Vernalis water quality objective to the City's discharge. The stark omission of any such analysis and justification is contrary to federal and state law, especially in light of prior admissions that the City's discharge is such a "small fraction" of the salt load to the Lower San Joaquin River. *See* 40 C.F.R. §§130.4(a) & (b) and 130.7; Water Code §§13000, 13241.

Without conducting the proper studies and presenting associated analysis and need, the Regional Board is simply applying the Vernalis water quality objectives out of expedience, based on speculation and unsupported conclusions. *See* Appendix 1 at 1-64 (simply concluding that by imposing WLAs equal to the salinity water quality objectives at Vernalis "[s]alt and boron loads from point sources therefore should not contribute to exceedences of water quality objectives"). Agency action not supported by findings, or findings not supported by the evidence, constitute an abuse of discretion. *See, e.g.*, 40 C.F.R. §124.8(b)(4); *Topanga Association for a Scenic Community v. County of Los Angeles,* 11 Cal.3d 506, 515; *California Edison v. SWRCB,* 116 Cal. App. 751, 761 (4th Dt. 1981). For this reason, the City requests the Regional Board to reconsider the actual impact of the City's discharge on attainment of water quality objectives in the Lower San Joaquin River at Airport Way Bridge near Vernalis, and re-assess the necessity of strict application of downstream water quality objectives to the City's end-of-pipe discharge based on such analysis.

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[5] For purposes of this section, based on statements made in the Staff Report and Technical TMDL Report referenced above, the City assumes that the Regional Board will require strict compliance with the electrical conductivity water quality objectives for the Lower San Joaquin River at the Airport Way Bridge near Vernalis in the City's NPDES Permit. The City makes this assumption for purposes of discussion and without admitting that this is the appropriate interpretation of the requirements of the Salt/Boron TMDL discussed in Section 1 of this letter, which we have noted are troublingly ambiguous.

3. Pollutant Trading Is Not a Panacea for Municipalities Seeking to Comply With the Requirements of the Salt/Boron TMDL.

Instead of facing the very real consequences of strict application of downstream water quality objectives at Vernalis to the City's end-of-pipe discharge, the Regional Board casually states that "[p]oint source discharges may also have opportunities to increase their WLAs through pollutant trading with other point or non-point source dischargers." *See* Appendix 1 at 1-64. While pollutant trading has been a topic of much debate at both a national and state level for the past decade, no advances have been made towards development of a state policy for pollutant trading. Given the logistical issues and the effort needed by the State Board in order to reach consensus on a statewide pollutant trading policy, it is careless for the Regional Board, at this point, to rely on pollutant trading as a panacea for municipalities and other point sources to comply with the requirements of the Salt/Boron TMDL. Furthermore, no method is included in the Salt/Boron TMDL to account for pollutant trading among point sources, should such practice be sanctioned by the state in the future, leaving a *de minimus* point source such as the City with an inappropriately severe burden to attempt to pioneer an acceptable trading arrangement. For this reason, the Regional Board should either eliminate the reference to pollutant trading or revise the statement to include a specific commitment by the Regional Board to reopen the Salt/Boron TMDL by a date certain to develop a method to account for pollutant trading should such practice be approved of by the state in the future. In the present Salt/Boron TMDL, the burden of the TMDL on the City should not be considered to be lessened by the prospect of pollutant trading.

4. The Regional Board Should Consider Providing the City with A Source Water Credit Similar to the Credit Provided to Users of the Delta-Mendota Canal.

Even though the Grassland and Northwest Side Sub-areas are identified as the predominant source of salinity in the Lower San Joaquin River (*See* Appendix 1 at 1-2), a supply water credit is provided to irrigators in the Grassland and Northwest Side Sub-areas that receive water from the Delta-Mendota Canal ("DMC"), since the DMC supply water credit is equal to 50 percent of the salt load delivered to the Grassland and Northwest Side Sub-areas. *See, e.g.*, Staff Report at 22 (setting forth Supply Water Credit language to be incorporated into Basin Plan). Similarly, the City's supply/source water, derived from local groundwater, which by the express terms of the Salt/Boron TMDL is being addressed separately, is a predominant source of salinity in the City's final discharge to the Lower San Joaquin River. *See* Appendix C at C-6 (identifying Source Water Electrical Conductivity as 510 uS/cm[6] and Wastewater Effluent Electrical Conductivity as 810 uS/cm); *see also* Appendix 1 at 1-59 through 1-61. The City requests that the Regional Board investigate and provide a source water credit for municipal point sources, so

[6] The City would like to correct the source water figure set forth in Appendix C. The City's source water averages 280 uS/cm, with a maximum detection of 489 uS/cm. The variation is due to the fact that the City derives its source water from twenty-two different groundwater sources, all with varying levels of salinity. Even with this correction, the City's source water constitutes at least a third, if not more than half, of the salinity in the City's discharge.

that the City is not unduly penalized for groundwater salinity not generated by the City or its sewer users. Such a credit could obviate the need for the construction of additional advanced treatment facilities for the City's relatively minute contribution of salinity. Given the City's extremely minor contribution of salinity to the Lower San Joaquin River, a source water credit would comport with the Clean Water Act's watershed principles for addressing impaired water bodies and the Water Code's mandate for reasonable regulation.

5. The Regional Board Has Failed to Consider the Social, Economic, and Environmental Impacts of the Salt/Boron TMDL in Violation of the Water Code.

The Regional Board acknowledges the applicability of Water Code section 13241, requiring the consideration of economic, social, and environmental effects of the Regional Board's actions, in adopting the Basin Plan amendment and Salt/Boron TMDL provisions. *See* Staff Report at 7. However, the limited economic analysis provided by the Regional Board in the Staff Report and Appendix 4, which purport to address "discharger cost to implement" the TMDL, fails to address the exorbitant costs the City will incur in order to ensure consistent compliance with the Salt/Boron TMDL. Specifically, in the Staff Report, the Regional Board states that the cost of compliance for point source dischargers regulated by existing NPDES permits, such as the City, is "Low." The Regional Board supports this ranking by stating, "Permitting costs are already incurred by the dischargers and changes to the permits would not require any significant increase in the administrative costs or fees associated with existing permits. *Costs to implement will depend on the discharger ability to use pollutant trading to meet waste load allocations.*" [7] *See* Staff Report at 50. (Emphasis added). In Appendix 4 (the appendix that sets forth the Regional Board's consideration of the economic cost to comply with the Salt/Boron TMDL), *no* mention is made of the cost to municipal or industrial point sources of complying with the waste load allocations prescribed in the Salt/Boron TMDL. The Regional Board's obvious disregard of, and failure to consider, actual implementation costs violates Water Code section 13241.[8]

The Regional Board is well aware that the City will be unable to consistently comply with WLAs derived from the methods described in either Appendix 1 or Appendix C with the City's current treatment technology. *See* Appendix C, Attachment 5 (City of Turlock Daily Wastewater Discharge Monitoring). Industrial source control efforts will only minimally reduce the concentration of salinity in the influent, given the type of industry that resides within the City's service area (food manufacturer and milk processors that must utilize a fair amount of salt in their processes in order to generate the product and, more importantly, to comply with USDA sanitation requirements). Furthermore, reducing salinity concentration in residential waste (through the ordinance-based control of self-regenerating water softeners or voluntary efforts

[7] *See* Section 3 above regarding the City's objection to the Regional Board's use of "pollutant trading" as a compliance solution.

[8] The City also notes that the Regional Board failed to properly consider other factors set forth in Water Code section 13241 (*i.e.*, water quality conditions that could *reasonably* be achieved, the need for developing housing within the region, etc).

encouraged through public outreach programs) will not likely result in a steep enough reduction of salinity in the influent,. Therefore, the City cannot rely solely on source control as a method for reducing salinity in the City's influent to levels that will result in compliance with WLAs prescribed in the Salt/Boron TMDL. For these reasons, the most effective method for achieving consistent compliance with the WLAs (from either Appendix 1 or Appendix C) is the construction of micro-filtration and reverse osmosis ("MF/RO") or coagulation and filtration plus high lime, granular activated carbon, and reverse osmosis advanced treatment facilities.

While MF/RO or other advanced treatment facilities may provide a greater level of pollutant removal than secondary or tertiary treatment facilities in some cases, these facilities are exorbitantly expensive and may have detrimental environmental consequences, neither of which were considered by the Regional Board as required by Water Code section 13241. The capital cost of MF/RO is estimated at approximately $70 million dollars, and the installation of MF/RO advanced treatment facilities will severely increase *annual* operation and maintenance costs by approximately $8 million dollars.[9] The capital cost of installing coagulation and filtration plus high lime, granular activated carbon, and reverse osmosis is estimated at approximately $100 million dollars, with annual operation and maintenance costs increasing by approximately $12 million dollars.[10] These cost estimates dwarf the Regional Board's estimated annual cost for compliance for *all* dischargers presented in the Salt/Boron TMDL. *See, e.g.,* Staff Report at 78 and 86.

From 1996 to 2006, the City will have already raised sewer user fees over 150% to comply with new requirements imposed by the Regional Board. This has caused residential user fees to increase from $11.00 per month to $29.00 per month, and small industrial user fees to increase from $5,000 per month to $12,500 per month. If the City is required to install advanced treatment facilities, sewer user fees will again increase by at least 250 %.

If this information was considered by the Regional Board as part of the Salt/Boron TMDL, the Regional Board might conclude that this staggering increase in sewer user fees is not justified by the City's relatively minor contribution of salinity to the Lower San Joaquin River. However, by failing to address the actual economic burden, the Regional Board has abdicated its responsibility and violated Water Code sections 13000 and 13241. For this reason, the City requests the Regional Board to reconsider the WLAs prescribed for point sources in the Salt/Boron TMDL in light of the overwhelming economic burden that will be placed on the City for little to no net environmental benefit.

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[9] *See* April 5, 2001 comments on the City's tentative NPDES Permit.

[10] The City is already in the process of installing coagulation and filtration, which explains the slight reduction in the cost estimate for coagulation and filtration plus high lime, granular activated carbon, and reverse osmosis as compared to the City's April 5, 2001 comments referenced above.

6. The Regional Board Has Failed to Comply with CEQA By Failing to Consider the Detrimental Environmental Impacts Associated with Implementation of the Salt/Boron TMDL.

In order to comply with the California Environmental Quality Act ("CEQA"), the Regional Board sets forth an Environmental Checklist Form to "assist in identifying potential impacts and outlining mitigation measures," followed by a brief discussion of each of the 17 categories of impact set forth in the Checklist *See* Staff Report at 87. The Regional Board's analysis is flawed from the start, as the Regional Board utterly fails to include *any* analysis of the environmental impacts of compliance methods expected to be implemented by point source dischargers (*i.e.*, the detrimental environmental impacts of MF/RO or other advanced treatment technology, described more fully below), and admits that management technologies that may be used by other dischargers (*i.e.*, agricultural and wetland dischargers) were not considered since the "extended compliance schedule" provided is believed to "allow sufficient time to develop management schemes that would minimize impacts." *Id.* at 88. For this reason, the Regional Board is abdicating its responsibility under CEQA to analyze, without segmenting the project into discrete, non-controversial components, the actual and/or expected environmental impacts of implementing the Salt/Boron TMDL. Nonetheless, the Regional Board determined that the Proposed Project COULD NOT have a significant effect on the environment and a negative declaration will be prepared. *Id* at 90.

As noted above, the only method identified by the City that will ensure consistent compliance with the WLAs prescribed in Appendices 1 and C, is the installation of advanced treatment facilities. As the Regional Board is aware, given past discourse before and between the Regional Board and State Water Resources Control Board, significant environmental impacts are associated with the installation and operation of advanced treatment, which may actually result in the Salt/Boron TMDL creating a net environmental loss in the context of point source dischargers. Operation of the identified advanced treatment facilities is extremely energy intensive, requiring additional natural resources to be devoted to energy production. Further, a highly concentrated brine is produced by the operation of advanced treatment facilities (due to the much higher level of filtration). The disposal of these brines is highly problematic for a non-coastal City (no ability to construct a brine line to the ocean, if even such a brine line is environmentally acceptable), and would likely require transportation of the brines to a hazardous waste landfill via hundreds of truckloads a day/week, thereby increasing air pollution.

These issues should have been considered by the Regional Board as part of its CEQA analysis. If considered, the Regional Board might have modified the WLAs for point source dischargers (*i.e.*, by providing a source water credit that would obviate the need for advanced treatment facilities or otherwise modifying the numeric target to achieve the same result). For these reasons, the City requests the Regional Board to reconsider the potential significant environmental impacts associated with implementation of the Salt/Boron TMDL, and take appropriate action to mitigate such potential impacts.

Thank you for your consideration of the enclosed comments. The City looks forward to working cooperatively with the Regional Board in order to implement the suggested changes.

Very truly yours,

DOWNEY BRAND LLP

Nicole E. Granquist

Cc: Dan Madden, City of Turlock